IUGN 14

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NOTES

With great sadness I have learnt of the sudden death of Roy Barsby, who was killed in a road accident. Roy was building towards disks and had been working on the project for about a year. Roy will be missed by many of us.

****

Recently released from Greenbank is the S0C-1 card. It is a "Single Board Computer" card. This very versatile card contains a Z80A, Ram, Rom and port I/O all on one board. You program it using a standard Interak. Burn the program into a Rom and the card can be fitted into the application hardware as a free standing single board computer. Alarm systems, robot controllers and central heating controllers spring to mind as possible applications.

****

Also available in prototype diagram form, but soon to be tracked as a board, is the COM-1 card. This is a programmable RS232C interface. Programmable means all aspects can be controlled by the software, from individual recieve/transmit baud rates (50 through 19200 in 16 steps), to the number of bits in the serial byte. See the ICOMM program in this issue for the port map of the card. In the ICOMM application, it is controlling a Modem to talk to TAECOM, the interak BB. But the card is capable of any RS232C application and can act as a Data Communications Equipment (DCE-device) or a Data Terminal Equipment (DTE-device).

****

Whilst refering to Modem's, David of Greenbank can now supply you with one, give him a ring for details. On offer is the World Series range from Miracle Technology. You don't need a disk system and CP/M to access TAECOM only a Modem, COM-1 and the ICOMM software to put your Interak on Line to the world.

****

CBBS NORTH EAST has a new phone number. 02284-3555. Hours 1430 to 0900.

****

Some people have experienced problems with ASM64 returning to ZYMON. This is done by a RST 0 instruction at location 1107 (versions may vary), but look for a C7N code in that area of the code. Usually when I have investigated this problem the constructed program has damaged ZYMON in low store.!!

****

We cannot supply ASM64 any longer as there was a possibility of copyright infringement, and until that is sorted out it cannot be distributed. Sorry.
The CPMUGUK can provide an assembler and TAECOM can supply a disassembler via the Download menu.

****

The User Group is supposed to be having a meeting sometime soon. When we do I will try to pass on what was decided. If you would like to attend the meeting please write to The our secretary (enc.a SAE please) and he will advise you of the date/place. At this time niether have been decided so don't expect an immediate reply.

****

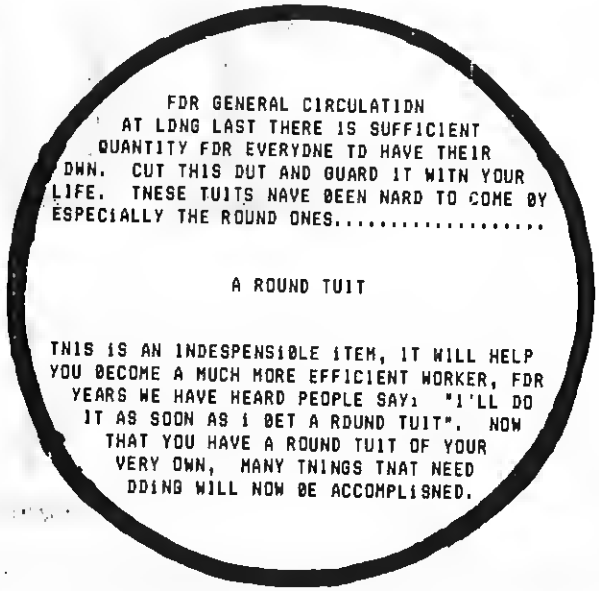
Mr Charlie Bridgstock, 32 Wimborne Ave, Thingwall, Wirral, Merseyside, L61 7UL has agreed to act as a public domain disk librarian. He will let me know when he is ready to go live. Meanwile he will be pleased to recieve any public domain work that you might have. Thanks Charlie, this will satisfy a great need in the user group.

****

Bob Eidridge.

STEVE PADLEY'S ROUND TUIT

Here's a little something for all readers to help them with there work.



I HOPE THIS WILL GIVE PEOPLE THE HELP THEY NEED.

STEVE PADLEY.

SMALL ADS

FOR SALE
Brother HR5 thermal printer with RS232C interface £55.00p.
5" green screen monitor, composite input £35.00p
19"x3U rack with ASTEC Multirail PSU in steel Case £75.00p
ASCII keyboard housed in a steel case £20.00p
Cards for sale are :-
MZ03 @ £25, VDUK @ £35, LKP1 @ £20, DTI1 @ £30,
3xMXD2 @ £10 ea, PSD on DIP @ £20.
Or £250.00p the lot.
Phone 0634-31150 after 6pm or write to :-
P.MANSHIP,
17 GREENVALE GARDENS, GILLINGHAM, KENT, ME0 6NB.

FOR SALE
Complete Interak System.
32k Ram (2xMXD2), MZ03+ZYMON, VDUK, DT1, ZYBASIC,
16 CHANNEL FAST DAC, 3 CHANNEL0 VCF/VCA, SNAPERS,
LEADS, TV, MANUALS, PSU, CASE & SOCKETS.
Offers to:- ALAN, EAST GRINSTEAD, 0342-312329 after 6pm.

FOR SALE
Oric MCP 40 by 4 color printer/plotter (Centronics) £ 45.00p
Shinwa CP80 printer (Fully Epson compatable) £125.00p
Advance Gould Alpha 4 digit multimeter bench mod £55.00p
Taylor 132 analogue multimeter £ 15.00p
Also considerable photographic equipment. Details on request.
MEL SAUNDERS, 7 DRUMCLIFF RD, THURNBY LODGE,
LEICESTER, LE5 2LN.

```
                ;                       ICOMM
                ;Interak Communicetions program.
                ;
                ;A Bulletin Board access program for ZYMON based Interaks.
                ;
                ;This program is designed to allow non-disk owners of the
                ;Interak computer to access bulletin boards.  Disk users
                ;will of course use UKM7 from the CPMUGUK.
                ;The program works on an Interak 1 with a COM-1 card and
                ;a BT aproved Modem.
                ;ICOMM enables you to access a bulletin board, display,
                ;print and spool the transaction onto the printer, screen
                ;and memory respectivly.
                ;The memory buffer can be saved ( using ZYMON ) for later
                ;loading and inspection.
                ;At entry a menu of options is given.
                ;When the transaction with the BB is completed use CTRL_D
                ;to go to the menu and note the buffer Start-End addresses.
                ;ESC  back to ZYMON  and use the  Save command  to put the
                ;buffer to tape.    It can then be loaded and processed as
                ;required.
                ;To access Bulletin Boards using this program you need :-
                ;A MODEM capable of 300/300 operation.
                ;A COM-1 card from Greenbank.
                ;                                  Bob Eldridge October 1986
                ;
0000            TRUE    EQU     0
00FF            FALSE   EQU     0FFH
                ;
                ;ASCII equates
0000            BS      EQU      0       ;Back space, cursor left
000A            LF      EQU     10       ;Line feed
000D            CR      EQU     13       ;Carriage return
0020            SPACE   EQU     32       ;Space
007F            DEL     EQU     127      ;Delete character, left
0010            ESC     EQU     27       ;Escape to Zymon.
0004            CTRL_D  EQU     'D'-40H  ;Display menu
0010            CTRL_P  EQU     'P'-40H  ;Printer toggle

                ;VDU 2K equates
F000            LINE1   EQU 0F000H
0010            LINE0   EQU 24
0040            COLS    EQU 64
F5C0            LINE24  EQU LINE1+(COLS*(LINE0-1))

                ;Port assignments
0006            PSTAT   EQU  6          ;Printer status. Bit 7=TOMT
0007            PDATA   EQU  7          ;Printer data
0040            KDATA   EQU 40H         ;LK1 Keyboard port
0020            USTAT   EQU 20H         ;Uart status port (read)
0020            UCONF   EQU USTAT       ;Uart config, (write)
0021            UDATA   EQU 21H         ;Uart data  (read/write)
0022            MQIN    EQU 22H         ;Modem lines in (read)
0022            MQOUT   EQU MQIN        ;Modem lines out (write)
0023            UBAUD   EQU 23H         ;Uart baud rate adjust (write)
                ;************************************************
                ;Code begins
1000                    ORG     1000H

1000  31AA12    INIT:   LD SP,STACK     ;Stack
1003  AF                XOR A
1004  324512            LD (KEYCOE),A   ;Clear keystore
1007  0040              IN A,(KDATA)    ;Reset keyboard latch
1009  3E00              LD A,TRUE
100B  323D12            LD (SPOOLF),A   ;Switch on memory spooling
100E  3EFF              LD A,FALSE
1010  323C12            LO (HCOPYF),A   ;Switch off hardcopy
1013  3E2C              LO A,2CH        ;Configure Uart for..
1015  D320              OUT (UCONF),A   ;.. 8 bits, 1 stop, no parity
1017  3E55              LO A,55H        ;Set up baud rate to ..
1019  D323              OUT (UBAUD),A   ;.. 300/300 duplex
101B  CDFD11            CALL PRS        ;Move down screen
101E  0D0A0D0A          DEF8 CR,LF,CR,LF,0
      00
1023  C30610            JP MENU         ;Print menu

1026  31AA12    MAINL:  LO SP,STACK     ;Reset loop from any entry depth
1029  0020              IN A,(USTAT)    ;Get modem status
102B  E640              AND 40H         ;Mask for DAV
102D  CA5710            JP Z,KEYTST     ;If nothing from modem try keyboard
1030  D021              IN A,(UDATA)    ;Get modem character
1032  C07F              BIT 7,A
1034  C22610            JP NZ,MAINL     ;Don't print if 00H through FFH
1037  FE00              CP 00
1039  CA4010            JP Z,PRINT      ;Print "Back space"
```

```
103C  FE0D            CP CR
103E  CA4010          JP Z,PRINT        ;Print "Carriage returns"
1041  FE0A            CP LF
1043  CA4010          JP Z,PRINT        ;Print "Line feeds"
1046  FE20            CP SPACE
1048  DA2610          JP C,MAINL        ;Don't print if less than "Space"
104B  CD0D11  PRINT:  CALL CONOUT       ;Character to screen.
104E  CD6911          CALL SPOOLD       ;   -"-    to spool buffer
1051  CD0311          CALL HCOPY        ;   -"-    to printer
1054  C32610          JP MAINL          ;And return to main loop

1057  CD0F12  KEYTST: CALL KEYST        ;Get keyboard status
105A  B7              OR A              ;Set flags on input
105B  CA2610          JP Z,MAINL        ;No key loop back
105E  CD2912          CALL KEYIN        ;Get a character from the keyboard
1061  FE1B            CP ESC            ;If ESC key
1063  CA0000          JP Z,0            ;Exit to Zyeon.
1066  FE10            CP CTRL_P         ;If ^P..
1068  C27510          JP NZ,TRYCTM
106B  3A3C12  TOGOP:  LD A,(HCOPYF)     ;.. toggle printer
106E  2F              CPL
106F  323C12          LD (HCOPYF),A
1072  C32610          JP MAINL          ;Return to mainloop
1075  FE04  TRYCTM:  CP CTRL_D         ;If ^D..
1077  CA0610          JP Z,MENU         ;.. Display menu
107A  FE7F            CP DEL            ;Make DEL=BS
107C  2002            JR NZ,DATKEI
107E  3E08            LD A,BS
1080  CDF211  DATKEI: CALL TXDCHR       ;Transmit code in Acc to line
1083  C32610          JP MAINL          ;Go back to mainloop

                ;Display Menu and buffer status
1086  CDFD11  MENU:  CALL PRS
1089  0D0A            DEFB CR,LF
108B  49434F4D        DEFM 'ICOMM v1'
      4D207631
1093  206D6169        DEFM ' main menu'
      6E206D65
      6E75
109D  0D0A            DEFB CR,LF
109F  53706F6F        DEFM 'Spool buffer '
      6C206275
      66666572
      20
10AC  00              DEFB 0
10AD  2A3E12          LD HL,(BDATA)
10B0  CDC011          CALL HL2HEX
10B3  CDFD11          CALL PRS
10B6  482D            DEFM 'H-'
10B8  00              DEFB 0
10B9  2A4012          LD HL,(BDATAP)
10BC  CDC011          CALL HL2HEX
10BF  CDFD11          CALL PRS
10C2  480D0A          DEFB 'H',CR,LF
10C5  5E502020        DEFM '^P  - '
      2D20
10C8  5072696E        DEFM 'Printer toggle.'
      74657220
      746F6767
      6C652E
10DA  0D0A            DEFB CR,LF
10DC  5E442020        DEFM '^D  - Display menu.'
      2D204469
      73706C61
      79206D65
      6E752E
10EF  0D0A            DEFB CR,LF
10F1  45534320        DEFM 'ESC - Exit to Zyeon.'
      2D204578
      69742074
      6F205A79
      6D6F6E2E
1105  0D0A0D0A        DEFB CR,LF,CR,LF,0
      00
110A  C32610          JP MAINL          ;Go back to main loop
```

```
                        ;**********************SUBROUTINES**************
                        ;Print a character in Acc
                        ;If A reg 0DH = CR then do carriage return
                        ;If A reg 0AH = LF then do line feed.
                        ;If A reg 08H = BS then do backspace.
                        ;If A reg 7FH = DELETE then do backspace
                        ;Else print A reg to cursor position and advance cursor.
1100  F5        CONOUT: PUSH AF
1101  C5                PUSH BC
1102  D5                PUSH DE
1103  E5                PUSH HL
1104  4F                LD C,A              ;Save character to print
1105  2A4212            LD HL,(CURSOR)      ;HL = cursor
1108  3A4412            LD A,(CURCAR)       ;Character under cursor
110B  77                LD (HL),A           ;Put cursor character back
110C  79                LD A,C              ;Get character to display
110D  CBBF              RES 7,A             ;Reset parity bit
110F  FE0D              CP CR               ;Is it carriage return?
1111  2011              JR NZ,NCR           ;Branch if not CR
1113  21C0F5    CRET:   LD HL,LINE24        ;Load bottom line
1116  7E        SAVCUR: LD A,(HL)           ;Get cursor character
1117  324412            LD (CURCAR),A       ;Save it in curcsr
111A  365F              LD (HL),'_'         ;Print the cursor
111C  224212    EXIT:   LD (CURSOR),HL      ;Save cursor position
111F  E1                POP HL
1120  D1                POP DE
1121  C1                POP BC
1122  F1                POP AF
1123  C9                RET                 ;Exit done
1124  FE0A      NCR:    CP LF               ;Is it line feed?
1126  2010              JR NZ,NLF           ;Jump if not line feed
1128  1100F0    LFEED:  LD DE,LINE1         ;Point to screen top
112B  2140F0              LD HL,LINE1+COLS          ;Point to line 2 start
112E  01C005              LD BC,(LINES-1)*COLS      ;Number to move
1131  ED00                LDIR                ;Scroll up
1133  21C0F5              LD HL,LINE24        ;Load bottom line
1136  0640                LD B,COLS           ;Load line length
1138  3E20                LD A,SPACE          ;Space code
113A  77        CL24:   LD (HL),A           ;Blank first
113B  23                INC HL              ;Advance pointer
113C  10FC              DJNZ CL24           ;Blank bottom line
113E  18D3              JR CRET
1140  FE08      NLF:    CP BS               ;Is it backspace?
1142  2006              JR NZ,NBS           ;Branch if not
1144  3620      DELIT:  LD (HL),SPACE       ;Blot out character
1146  20                DEC HL              ;Backspace pointer
1147  C32311            JP SAVCUR           ;Branch to exit
114A  FE7F      NBS:    CP DEL              ;Is it delete?
114C  20F6              JR Z,DELIT          ;Do as backspace if delete
114E  77                LD (HL),A           ;Print code in A
114F  23                INC HL              ;Advance the cursor
1150  1100F6            LD DE,LINE24+COLS         ;Screen end
1153  CD0A12            CALL COMPAR         ;Does cursor = end?
1156  CA3511            JP Z,LFEED          ;Scroll if screen end
1159  C32311            JP SAVCUR           ;Exit if not screen end
                        ;Spool data in Acc to memory buffer
115C  F5        SPOOLD: PUSH AF
115D  D5                PUSH DE
115E  E5                PUSH HL
115F  5F                LD E,A              ;Save chr
1160  3A3D12            LD A,(SPOOLF)       ;Get spool flag
1163  FE00              CP TRUE
1165  283B              JR NZ,SPOOL1        ;Skip spool if buffer flag false
1167  70                LD A,E              ;Get back char
1168  2A4012            LD HL,(BDATAP)      ;Buffer pointer
116B  77                LD (HL),A           ;Store data
116C  23                INC HL              ;Next pos
116D  224012            LD (BDATAP),HL      ;
1170  1100E0            LD DE,0E000H        ;Limit of buffer
1173  CD0A12            CALL COMPAR         ;At limit yet?
1176  202A              JR NZ,SPOOL1        ;Continue if spool space ok
1178  CDFD11            CALL PRS
117B  0D0A0D0A          DEFB CR,LF,CR,LF
117F  53706F6F          DEFM 'Spool buffer full - Closed.'
      6C206275
      66666572
      2066756C
      6C202D20
      436C6F73
      65642E
1194  0D0A00            DEFB CR,LF,0
1197  3EFF              LD A,FALSE          ;Buffer full so switch off spooling
1199  323D12            LD (SPOOLF),A
119C  E1        SPOOL1: POP HL
119D  D1                POP DE
119E  F1                POP AF
119F  C9                RET
```

```
                        ;*********************************************
                        ;Acc to Hardcopy if hardcopy is turned on.
1183  C5        HCOPY:  PUSH BC
1184  4F                LD C,A              ;Save code
1185  3A3C12            LD A,(HCOPYF)       ;Test toggle status
1188  FE88              CP TRUE
118A  2889              JR NZ,HCOPYE        ;Exit if toggle false
118C  DB86        HCOPY1: IN A,(PSTAT)      ;Get printer status
118E  E680              AND 88H
11C8  28FA              JR Z,HCOPY1         ;Looping for TBMT
11C2  79                LD A,C              ;TBMT so get code
11C3  D307              OUT (PDATA),A       ;Print it
11C5  79          HCOPYE: LD A,C
11C6  C1                POP BC
11C7  C9                RET
                        ;*********************************************
                        ;Print hex of HL
11C8  7C          HL2HEX: LD A,H
11C9  CD0111            CALL A2HEX
11CC  7D                LD A,L
11CD  CD0111            CALL A2HEX
11D0  C9                RET
                        ;*********************************************
                        ;Print hex of ACC
11D1  F5          A2HEX:  PUSH AF
11D2  1F                RRA
11D3  1F                RRA
11D4  1F                RRA
11D5  1F                RRA
11D6  CDDA11            CALL A2L
11D9  F1                POP AF
11DA  E68F        A2L:    AND 8FH
11DC  FE0A              CP 10
11DE  DAE311            JP C,A2U
11E1  C687              ADD A,7
11E3  C638        A2U:    ADD A,'0'
11E5  CD8D11            CALL CONOUT
11E8  C9                RET

                        ;*********************************************
                        ;Get data from the modem
11E9  DB2B        GETMOD: IN A,(USTAT)      ;Get status, looking for DAV
11EB  E640              AND 48H             ;Mask for DAV
11ED  28FA              JR Z,GETMOD         ;Loop if no DAV yet
11EF  DB21              IN A,(UDATA)        ;Get data to Acc
11F1  C9                RET                 ;Pass it back

                        ;*********************************************
                        ;Pass Acc to modem for transmission
11F2  F5          TXDCHR: PUSH AF           ;Save data
11F3  DB20        TXDCB1: IN A,(USTAT)      ;Get modem status byte
11F5  E688              AND 80H
11F7  28FA              JR Z,TXDCB1         ;Wait for TBMT
11F9  F1                POP AF
11FA  D321              OUT (UDATA),A       ;Send data
11FC  C9                RET                 ;Finished

                        ;*********************************************
                        ;Print string inline, stop at 88
11FD  E3          PRS:    EX (SP),HL        ;Get first character position
11FE  7E          PRS1:   LD A,(HL)         ;Get first/next character
11FF  B7                  OR A              ;Set flags on char
1200  2806                JR Z,PRS2         ;If char=0 exit
1202  CD8D11              CALL CONOUT       ;Else print character
1205  23                  INC HL            ;Point to next character
1206  18F6                JR PRS1           ;Loop back for next
1208  E3          PRS2:   EX (SP),HL        ;Get return address to stack
1209  C9                  RET               ;Go back

                        ;*********************************************
120A  B7          COMPAR: OR A              ;Clear carry
120B  ED52                SBC HL,DE         ;Compare HL:DE set flags
120D  19                  ADD HL,DE         ;Restore HL
120E  C9                  RET               ;Return flags on compare
                        ;*********************************************
                        ;Return key status in Acc.  Non zero if key found
120F  3A4512      KEYST:  LD A,(KEYCDE)
1212  B7                  OR A
1213  28BE                JR NZ,OLDKEY
1215  DB40        NEWKEY: IN A,(KDATA)
1217  C688                ADD A,88H
1219  324512              LD (KEYCDE),A
121C  3805                JR C,OLDKEY
121E  AF                  XOR A
121F  324512              LD (KEYCDE),A
1222  C9                  RET
1223  3EFF        OLDKEY: LD A,0FFH
1225  C9                  RET
```

```
                    ;***********************************************
                    ;Return key in Acc
1226  CD0F12  KEY1:  CALL KEYST
1229  3A4512  KEYIN: LO A,(KEYCOE)
122C  07              OR A
122D  20F7            JR Z,KEY1
122F  4F              LO C,A
1230  0040    ST0:    IN A,(KOATA)
1232  C600            ADD A,00H
1234  3DFA            JR C,0T0
1236  AF              XDR A
1237  324512          LO (KEYCOE),A
123A  79              LD A,C
123B  C9              RET

                    ;***********************************************
                    ;1Coem workapace
123C  00        HCOPYF  DEF0 0          ;Print control
123D  00        SPOOLF  OEF0 0          ;Spooler control
123E  0020      0DATA   OEFW 0UFFER     ;Spool data
1240  0020      0OATAP  DEFW 0UFFER     ;Spooled data pointer
1242  C0F5      CURSDR  DEFW L1NE24     ;Curaor addreaa
1244  20        CURCAR  DEF0 20H        ;Character under curaor
1245  00        KEYCDE  OEF0 0          ;Key code
1246            STKSPC  OEFS 100        ;Stack apace
12AA  0000      STACK   DEFW 0          ;Stack pointer at atart
2000            0UFFER  EDU $+1000H.AND.0F000H  ;Spool buffer(Next 4k boundary)
```

```
;***********************************************
;                 ;COMM Appendix A
;COM-1 card detaila.
;I recoeeended that the COM-1 be aet for port 20H.
;COM-1 to Modem interface connectiona.
;Only four wirea are required between COM-1 and the
;Modee.
; COM-1 card                    MOOEM
; SO aerial out ------------- Pin 2 TXO
; SI serial in  ------------- Pin 3 RXO
; CTS ----------------------- Pin 5 CTE
; 0v ------------------------ Pin 7 Signal ground
;On the COM-1 card, connect CTS to the 0USY aignal
;that ia Anded with T0MT.
```

```
;COM-1 port mapa

;Read Port 20H, USTAT = Uart atatua byte
;0it Meaning
; 7  T0MT 1 if Tranaeitter buffer eepty
; 6  OAV  1 if Oata availiable
; 5  EOC  1 if End of character
; 4
; 3
; 2  PE   1 if Parity error
; 1  FE   1 if Fraeing error
; 0  OR   1 if Overrun

;Write Port 20H,
;UCONF = Uart configuration byte.      Pattern to
;0it Meaning                           init interak
; 7                                          0
; 6                                          0
; 5  NP   1 for No parity.                   1
; 4  EPS  1 for Even parity.                 0
; 3  N02  N02,N01 00 = 5 bita,  01 = 6 bits. 1
; 2  N01  N02,N01 10 = 7 bita,  11 = 0 bita. 1
; 1                                          0
; 0  TS0  0 = 1 atop bit.  1 = 2 atop bita.  0
```

```
;Read Port 21H, UOATA = Uart data.
;0 bita of data are read by thia port.

;Write Port 21H, UOATA = Uart data
;0 bita of data are written to thia port.

;Read Port 22H, MOOIN =  Modem input linea
;0it Meaning
; 7  CTS/RTS
; 6  DSR/OTR
; 5  RXO/TXO
; 4  MR CLK
; 3  MT CLK
; 2  ORS/STF
; 1  Ri
; 0  OCO

;Write Port 22H, MOOOUT= Modem output linea
;0it Meaning
; 7  RTS/CTS
; 6  OTR/OSR
; 5
; 4
; 3
; 2  STF/DRS
; 1  Ri
; 0  OCD

;Write Port 23H, U0AUD= Uart 0aud rate. Pattern to
;0it Meaning                                init interak
; 7  TXC0\                                        0
; 6  TXC4 Transeitted data baud rate aeiect       1
; 5  TXC2  0 - F, 50 to 19200 baud                0
; 4  TXC1/                                        1
; 3  RXC0\                                        0
; 2  RXC4 Received data baud rate aelect          1
; 1  RXC2  0 - F, 50 to 19200 baud                0
; 0  RXC1/                                        1
```

THE END

FORMAT.COM

CHANGES TO FORMAT.COM (VERSION 2.1 FOR 5.25" DISKS) TO MAKE VERSION 2.2

These alterations were discovered by Mr K.Daley (to whom our grateful thanks are extended) to make Wolf Shroeder's formatting program comply with the proposed standard.

Make the following alterations using DDT (on a copy of FORMAT.COM, unless you are very confident!) as follows. No change in performance will result, except that some non-Interak users, with less advanced disk controllers than the Interak FDC-1, will find it easier to read and write to our formatted diskettes.

The changes below include changing the on-screen version number, so that you as a user will have a clear indication which version of "FORMAT.COM" you are using.

```
DDT FORMAT.COM<cr>

NEXT   PC
0900   0100

Use the "S" command to make the following changes

Address  Existing  Change-to
-------------------------
0126       31        32
030F       60        94
03E1       5C        58
03E5       20        50
03EF       0C        08
0400       28        18
-------------------------
CTRL-C (to return to CP/M)

SAVE 8 FORMAT.COM<cr>
```

David Parkins 09/10/1986.

[EO - This is the format specification change that the modification represents. Personally I used :-

```
SAVE 8 FORMAT2.COM
```

This to prevent confusion on my machine. Also, before you do the above, check that you have 2.1, as newer owners may already have 2.2.]

DOCUMENT REF: DFMT2 861089

REVISED INTERAK DISK FORMAT SPECIFICATION CALCULATIONS

	Existing (Wolf Schroeder)			WD 2797 Data (Table 18)		
PREAMBLE	32	4E		32	4E	
	12	00		12	00	
	3	C2		3	C2	
INDEX MARK	1	FC		1	FC	
	32	4E	GAP 1A	32	4E	GAP 1A
SECTOR	12	00	GAP 1B, 3B	8	00	GAP 1B, 3B
	3	A1		3	A1	
ID MARK	1	FE		1	FE	
TRACK NUMBER	1	--		1	--	
SIDE NUMBER	1	--		1	--	
SECTOR NUMBER	1	--		1	--	
LENGTH CODE	1	02		1	02	
ID CRC	2	CRC		2	CRC	
	22	4E	GAP 2A	22	4E	GAP 2A
	12	00	GAP 2B	12	00	GAP 2B
	3	A1		3	A1	
ADDRESS MARK	1	FB		1	FB	
DATA	512	E5		512	E5	
DATA CRC	2	CRC		2	CRC	
	32	4E	GAP 3A	24	4E	GAP 3A

CALCULATIONS		CALCULATIONS	
GAP 1 =	44	GAP 1 =	44
GAP 2 =	34	GAP 2 =	34
GAP 3 =	44	GAP 3 =	44
GAP 4 =	77	GAP 4 =	16
PREAMBLE =	40+	PREAMBLE =	96+
1A+ =	32+	1A+ =	32+
	98		120
SECTOR: =	528+	SECTOR: =	520+
1B+ =	12+	1B+ =	8+
2A+ =	22+	2A+ =	22+
2B+ =	12+	2B+ =	12+
3A+ =	32+	3A+ =	24+
	686		594
TRACK:		TRACK:	
PREAMBLE +	00+	PREAMBLE +	120+
(10 x SECT)	6860+	(10 x SECT)	5940+
GAP 4	15-!!!!	GAP 4	16+
	6125		6004

6125 is worst case for disk running 2% fast: GAP 4 of -15 is unacceptable.

6004 allows disk speed error of 2.65%: acceptable.

IMPORTANT INFORMATION - iSBUS TRACKING ERROR

Frnm i-
Greenbank Electronics,
460 New Chester Road,
Rock Ferry,
Birkenhead,
Merseyaide,
L42 2AE.

Oesr Editor,

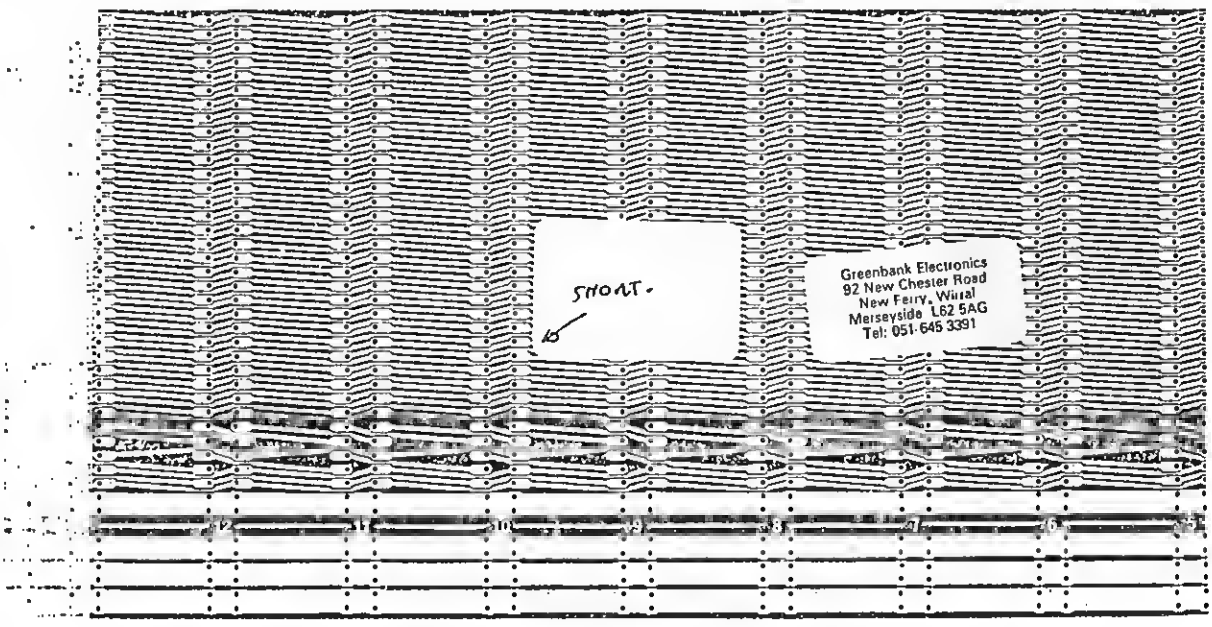
One of our uaers (Max Cottreii, thanks Msx!) hss recentiy reported s tiny ahort circuit on the trsck of sn iSBUS board auppiied to him in June thia year. On checking our own stock of boarda we found they were mostiy OK, but a coupie of bosrds did bear s simiiar fault. Murphy's lss being whst it ia, there ia a chance other usera have been sffected, so we are writing to you to ask sii users to check their backbosrds juat to be on the ssfe side.

The fault, if present, ia in the nsture of s "time bomb" becsuse it wiii not sffect the present working of sny interak, since it is s short to the "B" side connectors, which are not used at the moment; but of courae if s ahort ia preaent it ia better thst it ia cleared sooner rsther thsn ister.

if there ia spsce in the newsletter perhsps you csn print s copy of the encloaed picture identifying the suspect sres, but if not, ssk the uaers to check the trsck which goes to B25 on edge connector number i0 is not shorting to connector pin A25 where the track psssea between pins A24 snd A25.

Yours sincerely
O.M.Psrkins.

iSBUS BACKBOARD - indicsting suspect area



TAECOMM NEWS FILE
By Tom Evans, SYSOP & SEC

Taecomm birth date: 14/10/85
** UPDATE 22/09/86 **

"New Mini-Interak"

Hi all, and everyone, have now got the mark 2 "portable" Interak into operation, this version, unlike mark 1 which had a VDU2K card, has an Intelgraph graphics terminal board built into the rack, giving not only limited graphics, but the magic 80 column display. Now I can use Csicstar, plus other software not permitted with the VDU2K's 64 column screen. The Inteigraph board was built about 2-3 years ago in an attempt to add 80 columns to my original Intersk (the big beast), but proved a bit difficult at the time to install with some major brands of software, so stood idle up until now. I have altered the operating Rom in Intelgraph (with the aid of Frank Kuper, Intelgraph designer) three times in order to improve its code compatibility, and is now "acceptable" to use with my present software. Going back to the Interak, she has twin 3.5" Panasonic drives giving a total of 1.6Mb storage, twin RS232C ports (one tied up to the Intelgraph), and a Centronics port for printer. The VDU is a VAKO Instruments 5" green phosphor monitor (makes you squint after a couple of hours), and a Farnell switch mode power supply. The keyboard is a 77 key Keytronic, ex-equipment from Lou Bishop, as is the Farnell power supply.

"Centronics card from Greenbank"

A new Centronics interface card kit is about to be launched by Greenbank for the Interak, for more details, and delivery contact Dave Parkins 051-645-3391.

"Drive select problems"

Something that has been driving me mad of late (possibly you as well), is the apparent stoppages to the drives on the board, and some select errors that have cropped up occasionally, now cured (I think), I received a ready built prototype disc controller for the machine, and the method of manufacture needed some ic sockets to be soldered top and well as on the bottom of the card, it appears after scrutiny that a total of eight legs missed this needed attention, and was giving off the select errors, finally failing, and crashing the board this weekend (20th Sept), I happened to be away this weekend, and the board was looking after itself, alas she fell fatally ill through lack of solder and died (sob). Now after some deft and magic surgery with a soldering iron and magnifying glass by Doc Tom, she burst into life, and it happily humming along keeping my knees warm as I type, ahh bliss!

"IBM Clone is singing"

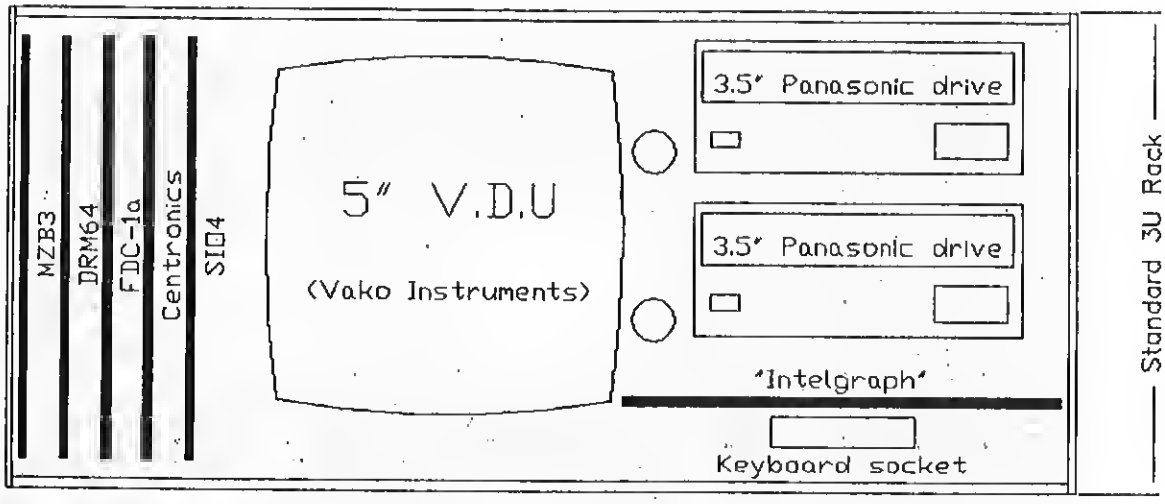
My foray into the world of IBM Clones has given me an XT type model with 640k on board memory, and 10Mb hard disk, this is working quite well, and am suprised how good it is, after all the gossip I had listened to regarding how crappy the whole system was. it does appear slightly SLOWER than the Intersk when operating the same stable word processor, but has some impressive software available making it very acceptable. My main requirement for the machine is in CAD and AV designs for my work, so will report on it more in the next update, but if anyone is thinking of getting one, you could do no better if you contacted Lou Bishop (Uxbridge 55399) for a quote and a play on the machine.

See yas ..... Tom.

PRINTED ON LOGITEK FT5001 VIA 80Ft LINK BETWEEN GRAPHIC STATION AND INTERAK

This is a working portable version of the Interak Mk1. Centronics Interface is optional (printer).

One UART of the SIO4 (ports 00/01) services the Intelgraph. (Second UART for printer/modem?)



All interface sockets (except keyboard) on rear of cab.

Mini-Interak Mk2

(original Mini had VDU-2k, and LKP-1 instead of Intelgraph)

01/10/86.	Taecomm-Interak
	Cad program test
	1 of 1

NOT TO SCALE

16 CHANNEL x 16 BIT +-CV GENERATOR FOR ANALOGUE MUSIC SYNTHESISER CONTROL

By Alan Payne.

Here is a simple project which can produce control or signal voltages for connction to an analogue sythesiser.

The Circuit.

An Exor gate decoder detects prefix 'C' addresses from the high 4 bits of address bus 0 thro' 7, and with the first "And" gate and the IORQ and Write data strobe produces a strobe for all prefix 'C' port addresses (point A).

This signal simultaneously activates the sample and hold amplifier aperture timing monostable ('221), port postfix latch ('273 on address bus lines 0 thro' 3), and data latches for the D.A.C. ('273s on Data lines 0 thro' 7 and address lines 0 thro' 15).

The port postfix is decoded by a 4 to 16 line decoder ('154) and the individual Sample and hold enables are activated by strobing pin 17 of the decoder, which saves on decoders and monostables (good eh?)

Logic and +-12v Supplies are from the Interak, and the +-15v Supply comes from an onboard +5 to +-15v epoxy encapsulated D.C. to D.C. converter. (Check the Supply requirements of your D.A.C.)

The Logic is all standard L.S, the D.A.C. used should be the best affordable (i.e. Burr Brown PCM 50kg) and an internal output amplifier can be feedback controlled with a multiturn pot or precision resistor. (O/P filters yet to be investigated)

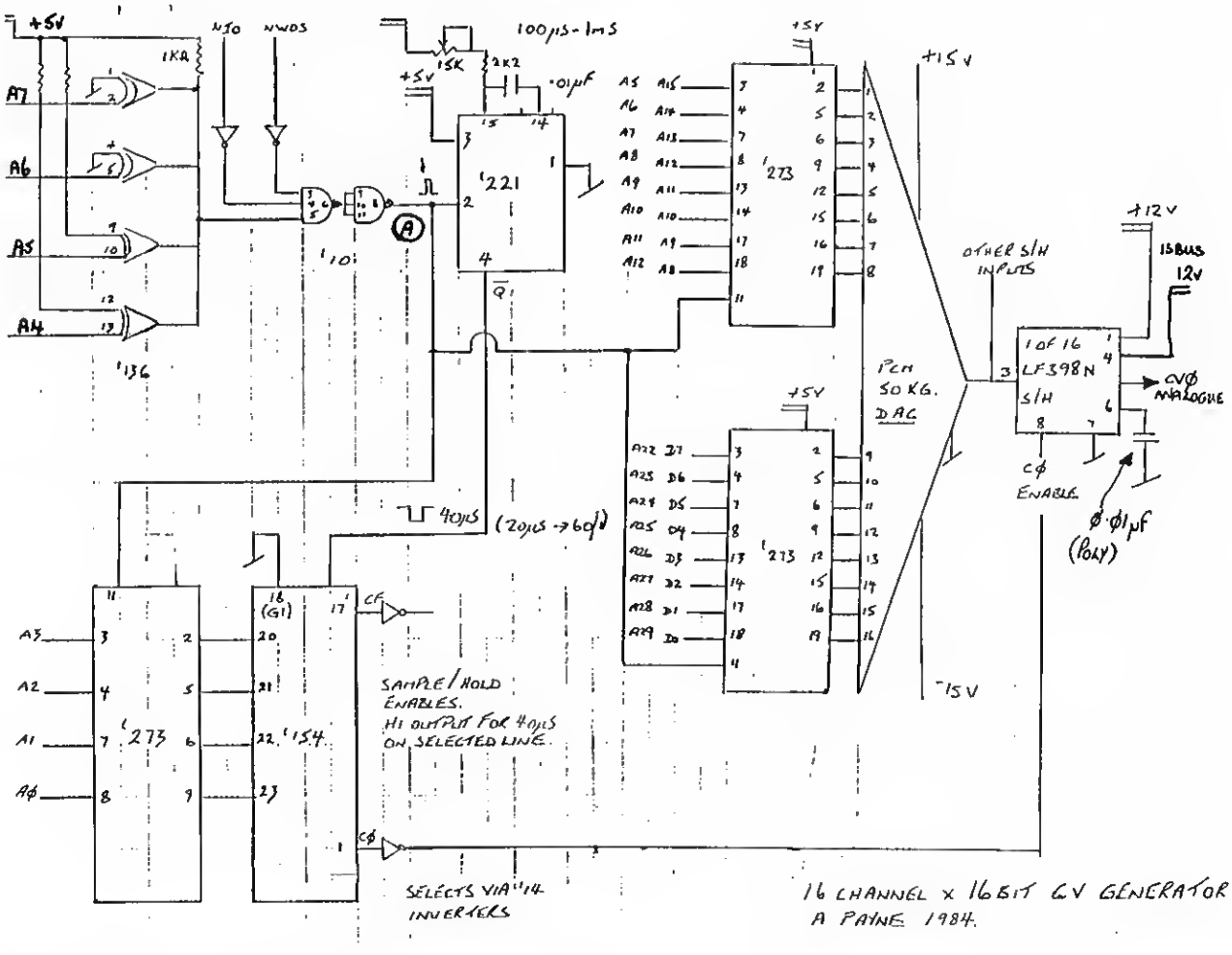
Likewise, the best S/H amplifiers should be used, the LF398N (N.S.C) has the fast and accurate capture, Low drift (with sensible sized capacitors) and a high input resistance/impedance, which is important, since any load on the D.A.C can affect the accuracy of it's output. Use Polystyrene, Polypropylene or P.T.F.E dielectric capacitors, the upright rectangular types are most convenient.

The monostable timing must be chosen to satisfy the conflicting requirements of update time and accuracy, a value in the range 10 micro/s to 100 micro/s will be adequate for most purposes, software must take these times into account. Note that Z80 instruction OUT (C),r requires the "C" register to hold the port address, and the "B" and "r" register ("r" not being "C" or "B") to hold data.

Further information send S.A.E. to :-

Alan Payne,
JO-AL,
22 Buckhurst Way,
East Orinstead,
West Sussex,
RH19 2AF.

(P.S. Any info on suppliers of analogue modules?)



HiTACHi HD64100 CPU

0y Simon Waller

Fiat 2,
Haritime Court,
50 Foundation Street,
Ipswitch,
1P4 18N.

"in the beginning, there was Intei and Intei created the 4004 CPU, and Intel aaw that it was good. And the 4004 begat the 8888, and the 8888 begat the 8088, and the 0000 begat the Z80."

Thls distingulshed family tree has recently been extended another generatlon by the Hitachi HD64188 CPU. Compatlbility has been malntained as far as possible for the obvious reasonı all that lovely software written for the 8888 and the Z88, eainly under CP/M.

8ut this chip is not merly a Z88 clone. It combines onto one chip most of the esaential features necessary for a microproceasor syatem. Hitachi have managed to squeeze onto the chip a Z88 procesaor (pius some extra instructions), a eemory management unit, two 16 bit timers, two DMA channela, two asyncronous aeriai channeis, one synchronous serial channel plus soee nice extras.

Added to this, the 64100 executes some instructions using fewer cycles than the Z80 and the standard veraion can run at speeds up to 4MHz. It is fabricated in CMOS so that it typically consumes 10ma compared to 90ma typicai for a Z00A. It has an on-chip clock generator that oniy needs an external cryatal (at double the operating frequency) or it can run of an externai clock slgnal.

Ok, now for some more detail. The 64188 can directly address 512 kbytes of memory so it has 18 address lines. To maintain compatlbility with CP/M, only 64k is visible at any one time. The memory management unit (MMU) handles the mapping of a logical addreas generated by the program to a physical address which goea out onto the bus.

The 64k is divided up into 3 area's with the boundarles at multiplea of 4k. The lowest area always maps directly from loglcal address to physlcal address, i.e. they are the same. The second area is mapped to a physlcal address by adding an offset, specified by the programmer, which ls itseif a multipie of 4k. Likewise, the third area has its own offset.

The DMA channels use physical addresses ao that they can transfer data to and from any part of the addreas space. Channel 8 can do transfers between memory and I/O in any comblnation except I/O to i/O. The memory address may be incremented, decremented or stay fixed. Channei i may only do transfers between memory and I/O, memory address lncreasing or decreasing. 0oth channels have externai DMA request lnputs.

There are three serial ports ln total, two of which are standard asynchronous while the third is synchronous and intended for inter-CPU communication (a la transputer). The two aaync ports may be clocked by a sub-muitipie of the processor clock or by an external aource. Channel 0 has three externai controi linea (RTS, CTS, and DCD) while channel 1 has only one (CTS). 0oth may be used with the on-chip DMA channels.

The sychronous channei ls very simple and is only e shift register plus some flags. Simplex communicatlon only is possibie.
The two counters are 16 bits each and have fixed clock inputs of the processor ciock divlded by 20. When the counters have reached 0, lnterrupts eay be generated and the counters are reloaded with preset vaiues.

Ail these extra functions have to be programmed somehow. A biock of 64 ports have been reserved for them and these ports may be positioned to start at address 00, 40H, 08H, or C8H to keep flexibillty. Each functlon has an internal interrupt line and there are four externai onear NMi, lNT8 (both the same as the Z00), iNTi and iNT2.

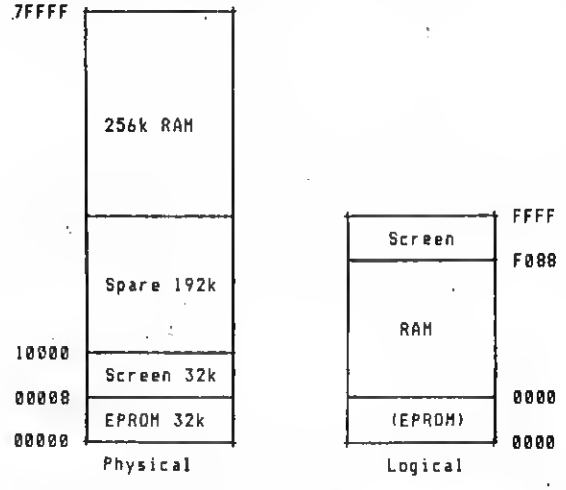
The timing on the bua is the same as the Z00 so it is almost a plug-ln replacement. The processor ciock is output from the on-chip clock generator and there ls also a clock output E suitable for the 68xx chip family. Did I mention that wait states can be programmed into memory or I/O accesses, that the frequency of the refresh cycle can be programmed, that illegal op-codes are treated es a software interupt, and that the I/O address space ia increased to 64k? (The advantage of the latter is debateable).

Some new instructions have been added. There is a aleep lnstruction, simllar to halt but the power consumption is reduced, an 8x8 multiply, I/O using any register and any port, block I/O output where the port addresa is incremented/decremented as well as the memory address, and a test instruction tht is a non-deatructive AND of the accumulator with an I/O port, a register, immediate data or meeory at (HL).

The 64100 is completely software compatible wlth the Z80 but there are a few mlnor hardware probiems, most of which occur at ciock speeds above 4MHz. 8ome pins have two functions which has to be resolved by the programmer. An example is the timer output whlch may be used lnatead as address iine i0. When uaed as the timer output, a splke can appear when A18 changes lnternally. Another probiem is that Z88 peripherals may not recognise the RETI instructlon due to M1 (called LIR on the 64188) falling too early. At hlgh clock frequenciea, the address delay and set-up timea may not be adequate after reset, sleep or bus release. Soiutlons to all these problems have been suggested in the User's Manual, a copy of which I am sending to the IUG library.

One further probiem, which did not come to light untill I had purchased a 64i00, is that the chip haa 64 pins but is in a atandard 48 pin size package, i.e. the pin spacing is not the standard 0.1" but 0.07". Luckily the evaluation package i bought included a suitable socket and a pcb whlch does a conversion to the atandard 8.1" pin spacing.

i will soon be building a new CPU board incorporating a 64188, finances ailowing, and converting my 64k board to 256k. The address map will then iook like i-



The EPROM in the logical sddress eap may sctusily be the EPROM in full or in psrt or sn iesge in RAM. When running CP/M, none of the EPROM will be visible except when s csll to the BIOS is esde. The bottoe boundary will be eoved up in aeeory to revesl the EPROM which will contsin aost of the BIOS routlnes. Before returning to CP/M, the boundsry is aoved bsck sgsin to hide the EPROM.

The screen can be aspped out in a sieulsr asnner. When running s eonitor slmilsr to ZYMON, the screen can sppesr at F000N to maintsin coepstibility.

The I/O ports used to control the 64iB0 festures csn sppear at B0N to BFN as this srea seees relstivly free st the eoeent.

The asin sdvantsge of the 641B0 is thst it maintains softwsre snd hardwsre compatibility with existing ZB0 systees while offering extrs festures on the ssme chip. This trend is likely to continue in the future due to the high cost of developing completely new systees snd writing new softwsre. If this srticle hss sroused your curiousity, then 1 suggest you get hold of the H0641B0 User's Msnusl 1 eentloned esrlier, which is where 1 got sll this inforastion.

Blaon

IEO- Thsnk you Blmon for s grest srticle. 1 hsve wondered for s long time now what would finally replsce the ZB0 snd this seems s possible candidste. 1 would desrly like to hesr whst Osvid Psrkins of Greenbsnk thinks of the 641B0 snd so 1 will send the book to hia , hopfully he will write an srticle based on his long experience st designing csrds etc. 1 will ssk him to psss the book to the library when he hss formed sn opinion of the chip.1

Notes on a session with TAECOMM.
By Bob Eldridge

This is sn edited version of the 23 pages of text obtsined from the TAECOM BULLETIN BOARD. As I received so much froe the board 1 hsve cut it down to try to give you as much information as possible in the space available. Log on and see it for yourself. In this text my notes, added during edlting, sre enclosed in [].

```
        YOU ARE IN CONTACT WITH TAECOMM
*************************************
*     THIS "FREE" BULLETIN BOARD    *
*      IS SPONSORED AND RUN BY:     *
*************************************
*            TOM EVANS              *
* INDUSTRIAL & COMMERCIAL PHOTOGRAPHY *
*     COMPUTER AIDED A.V. DESIGN    *
*           01-573 8822             *
*************************************

     CONTROL-X TO STOP, S TO PAUSE,
   CONTROL-Q TO RESUME TRANSMISSION

 TTTTT AAAA EEEE CCCC 0000 MM MM MM MM
  T   A  A E    C  C O  O M M M M M M
  T   AAAA EEE  C    O  O M M M M M M
  T   A  A E    C  C O  O M M M M M M
  T   A  A EEEE CCCC 0000 M M M M M M

  III NN  N TTTTT EEEE RRR  AAAA K   K
   I  N N N   T   E    R  R A  A K  K
   I  N N N   T   EEE  RRR  AAAA KKK
   I  N N N   T   E    R  R A  A K  K
  III N  NN   T   EEEE R  R A  A K K  K

          INTERAKERS,
            NASCOMEERS,
               GEMINITES,
                  CONSTRUCTORS
                     AND
                        ALL.....

************************************
          WELCOME TO TAECOMM
      **** MEMBER OF THE BBOA ****
      OCTOPUS R.A.S VERSION 1.91E
         INTERAK 1.ZB0.CP/M 2.2
************************************
<O>NLINE        **********************
<C>OMPUTER      * A  SPECIAL WELCOME *
<T>ERMINAL      * IS EXTENDED TO ALL *
<O>PERATED      *   INTERAK USERS    *
<P>UBLIC        **********************
<U>SER            SYSTEM WRITTEN BY
<S>YSTEM         PETER EVANS (OCTOPUS)
************************************

    SYSTEM OPERATOR  > :TOM EVANS
    FAITHFULL TEMP   > :BARB EVANS
    SYSTEM HOURS     > :NORMAL RUNNING
                     > :7PM TO 7AM
                     > :SUNDAY RUNNING
                     > :NOON TO 7AM
```

IF YOU HAVE FORGOTTEN YOUR PASSWORD, LEAVE US A MESSAGE, USING THE NAME <PASSWORD LOST>. DO NOT ENTER ANY PASSWORD IF YOU USE THIS DUMMY NAME, AS OTHER FORGETFUL USERS WILL THEN BE DENIED ACCESS.

IF THIS IS YOUR FIRST CALL - PLEASE TAKE CARE TO ENTER YOUR LOG-ON DATA CORRECTLY - WITHOUT UNWANTED SPACES OR NON-PRINTING CHARACTERS,

>>>>> AND "PLEASE" USE YOUR "REAL" NAME >>>>>

PLEASE LOG-ON TO THIS SYSTEM WITH THE FOLLOWING INFORMATION,

```
FIRST NAME      > :BOB
LAST NAME       > :ELDRIDGE
<SEARCHING USER-LOG>
CALLING FROM    > :LONDON
```

```
INPUT   A   1   TO   24   CNARACTER   PASSNORO
TERMINATiND  NITN <CR>,   FOR YOUR FUTURE USE NiTN
TNIS BOARD.   iF NO PASSNORO iS ENTERED IT NiLL BE
ASSUMED  TNAT  YOU  DO NOT NISN TO REMAiN  ON  THE
USER LOD, AND YOUR NAME NILL BE REMOVED AFTER LOO-
OFF

PASSNORO          > :***

FiRST  NAME       > :BOB
LAST NAME         > :ELORiOGE
CALLiND FROM      > :LONOON
PASSNORO          > :***
*** iS TNIS CORRECT (Y/N)? *** > :Y

CAN YOU PRINT LOWER CASE? (Y/N)> :Y
OO YOU NEED LiNE FEEOS?   (Y/N)> :Y
TERMINAL NIOTN? (40-i32 CHARS')> :64
NOW MANY NULLS? (0-58)          > :0

*** TAECOMM R.A.O.S (Hayes) ***
Neicomes          > :BOB ELORiOOE
Csiling from      > :LONOON
Your system user number is      > :00224
```

```
Control-X to Stop, S to Psuse,
Control-Q to Resume Transmission

          TAECOMM Remote Access System
==========================================
Oats Format 8 bit word - Two stop bits - No Parity
==========================================

RECENT  U.K  OATA PROTECTION  LEOISLATION  ENTAiLS
TNAT  USERS  OF TNiS SYSTEM JOIN OUR  FREE  USERS
CLUB.   MEMBERSNIP   OF TNIS   CLUB  iS ASSUMED  BY
USiND  TNIS SYSTEM.  iF TNIS IS YOUR FiRST  CALL,
AND  YOU OO NOT  WISN  TO  BECOME  A  MEMBER  TNEN
PLEASE GO NO FURTHER AND NANO UP NON.
```

[EO - I hsve gsthered together some of the menus thst sre svsiiisble to sccess the bosrds inforsstion. It sii stsrts with s msin menu and then sub menus ss you go deeper. i did not get them sIi.]

```
*** Buiietins ***
================
<B>uiietin Noi
<E>xit to Msin Menu
<O>oodbye to terminste
```

```
*** Messsging ***
=================
<M>sii (post privste E-Msil)
<F>isgged (msrked) messsges
<P>ost pubiic messsges
<R>esd pubiic messsges
<S>csn pubiic messsges
<E>xit to Msin Menu
<O>oodbye to terminste
```

```
Tsecomm System Oownlosd Ares
============================
The following protocois sre svsiisble
<A> X-on/X-off buffer controi codes off
<B> X-on/X-off buffer controi codes on
     (ASCii Files ONLY)
<C> X-Modem Protocoi file trsnsfer
    (Aii File Types)
```

```
*** Msin Menu ***
=================
<B>uiietins
<C>hst with SYSOP
<D>ownlosd Softwsre
<F>ormst System Output
<i>nformstion
<L>ocsi Festures
<M>esssging section
<P>sssword siterstion
<R>egistrstion (rsise sccess ievei)
<S>upervisory bosrd
<U>tiiities
<X>'chsnge User
<G>oodbye to terminste
```

```
*** Taecomm Flagged Message Area ***
====================================
<R>esd messages to You
<V>iew Messsges from You
<E>xit this section
```

```
*** Inforsstion ***
===================
<A>ssoclstion of F.P.A.S stsndsrds
<D>isplsy system user-log
<N>srdwsre inforsstion
<S>oftwsre inforsstion
<U>se (how to use system)
<E>xit to Msin Menu
<O>oodbye to terminste
```

```
*** System User Reglstrstion ***
================================
The following inforsstion is required
for user Registrstion.
i, Your current sddress snd postcode)
2, A dsytime (S.T.O) teiephone number
3, An optionsl pssswork, for future use
Compiie this inforsstion, snd enter ss
the foiiowing SYSTEM OPERATOR MESSADE.
```

```
*** Utiiities ***
=================
<F>ormst system O/P
<X>pert (toggie help ievei)
<O>ther bosrd systess
<T>erminsi Test Sequence
<E>xit to Msin Menu
<G>oodbye to terminste
```

```
A System Access Levei
of > 8 is required
 to Access -<S>- Bosrd
```

TAECOMM SYSTEM INFORMATION
==========

INTERAK version of OCTOPUS R.A.S 1.9
Written by PETER EVANS
Drafted to Intrak by TOM EVANS

These files explains how TAECOMM handles the following features: If you have never used the TAECOMM 88 before you should print or save to disc a copy of these instructions. They will help answer some of the more common questions asked about how to use TAECOMM.

MESSAGE ENTRY METHODS
****

TAECOMM 88 supports two forms of message entry. Theas are the line mode, and unprompted block mode.

The line mode is intended for manually typed in messages (the most common type). It prompts for each line with a line number and the count of characters left in the message buffer, where (LL) is the line number, and <NNNN> is the remaining (decimary) buffer specs.

The unprompted block mode is for terminal programs which do not support prompted upload. In this mode characters may be sent in a continuous stream until either two <CR>'s in a row (equivalent of a null input line) or the buffer limit of 2848 characters le reached.

The most usual problem area in block message input to TAECOMM is when you wish to include a blank line in your text. You MUST put at least one space in the line or it will be interpreted as the end of the message being entered.

When you have entered your meseage you will be given e set of options as follows:

<L>ist, <E>dit, <S>ave, or <A>bort?

<L>ist displays your entered text without word wrap and with each line numbered. The numbers are used for editing if you wish. Remember that TAECOMM will word wrap your message when it finally displays it so the linse may not come out exactly as you expect them.

<E>dit will ask you for a line number. Enter the number of the line you wish to change (as shown by <L>ist) and the current line will be diapiayed. You then re-type just this line as you want it to be, up to the length of the incorrect line.

<S>ave will save your message to the system's disc message base and exit back to the menu.

<A>bort will give up on entering this message. All text will be thrown away and you will be returned to the menu as if you had never used the enter message command.

DOWNLOAD FACILITIES
****
TAECOMM supports three protocols for program downloading:

1. ASCII with Buffer Control Codes.
   To use this mode your terminal program must recognize a Ctrl-R as a code for opening it s buffer. That is, when your terminal program receives the Ctrl-R it should start spooling all incoming data to a memory buffer. Upon receipt of a Ctrl-T it ehould stop spooling to the buffer. You then should have some method of dumping your memory buffer to a disc or tape file. Any non-ASCII software which appears in a download section cannot be transmitted by this protocol.

2. ASCII only, no control codes.
   In this mode TAECOMM just sends the file data only. You must capture it as best you can. A non-ASCII file cannot be transmitted by this protocol.

3. X-MODEM PROTOCOLS.

TAECOMM B.8.S (14/10/85)

OCTOPUS Remote Access System
<A Public Domain Utility>
==========
(Version 1.9b changes and additions for Interak)

The software for this board, has been declared a public domain utility, and is available FREE OF CHARGE to interested individuals.

If you have a Z-80 based CP/M system (originally written for the GEMINI GALAXY) then this system will run on your machine with few modifications.

OCTOPUS.COM is supplied as a source listing for the Necro-80/Link-80 macro assembler peckage available from Microsoft.It comprises of six modules (total 158k), and a collection of sample text files for the system.

A rudimentary manual is also supplied, which like the program is subject to continuous development. Currently, version <1.98> now in use. (Version 1.9b Custom Interak)

The software is available from Peter Evans (the author). Leave a message on his Bullstin Board Telephone No: 0272 421196 (Bristol) after 6pm or anytime Sundays.

NOTE!
There are operational changes in Interak version written in by Tom Evans, to suit his way of running the board, and some more changes are to be made regarding replies in general meseeging area, to make things easier for users.

```
****************************************
BULLETIN  BOARD  HELP
****************************************
******     14th October 1985     ******
```

FIRST STEPS FOR BEGINNERS.

Newcoeers to the Bulletin Board scene will find it s little more complex than they expect..

1: Check csrefully that the Board you sre cslling is operatlng at the tlme you call it. Msny boards only work limited hours. Their operstors are unpald - and even have jobs, wives and families. If ln any doubt, check the full entry in this lndex. We try to keep it ss up to date as possible. If you find sn error, lesve s messsge on TAECOMM BBS for Tom Evsns on E-Meil.

2: Please don't use faise names - it makes a mess of the SYSOP's (Sys- tem Operstor) user - log. Certsinly don't uss more thsn one if you MUST be pswudonymous.

3: Where you see the phrsse 'ring-bsck' it eeans disl the number] let lt rlng ONCE] ring off and re-dial. You will then flnd you will get the hlgh pitched tone that means the bosrd is ready.

4: Most bosrds have s Bulletin Section and some kind of Local Information Section. Its s good idea to print s copy of this on your flrst call as you need to know the rules snd slms of each board. This will take quite s time on flrst csll but psy off in time ssved ister. Some will send lt to you by post, for an s.s.e.

5: Many boards have seversl Specisl Interest Groups (SIG's), relating either to psrticular mlcro's or activities. Make a note of sny that psrticularly lntersst you, to ssve cost of future calls.

6: Most bosrds have a 'HELP' mode for newcomera. If you print a copy of this you will slso save money on further calls.

7: Many bosrds have programmes on offer but this needs to be a 2-way service so offer them sny you can share leg- slly with others. It takes some practice to learn the techniques of up- snd down-losding, though.

8: Running a board ls expensive as well as fun, so courtesy requlrea that we make sure the SYSOP is not out-of-pocket. If you ask for anything, be sure to send s stamped, addressed envelope, snd a tape or disk if lt is software. Oont ssk for repro- duction services if they sre'nt off- erred. Tiee ls money, too, snd one request msy be essy - many sre not!!

9: Reeember, s bosrd only operates on the bsud rates shown for it. 1200/75 users, coming from Micronet/Prestel cannot access 300 Baud bosrds unless they heve a suitable Modem AND soft- ware. They may well hsve dlfflcul- ties even then, ss the auto-ldentif- catlon units sre still dsveloping. OON'T ring the SYSOP out of hours. Ask your locsl user group, look in one of the msgs, or send sn MBX to Clubspot if you sre really stuck. When buying a modee, make surs it will handle 300 Bsud if you wsnt to use the Bulletin Bosrds very much.

A.F.P.A.S. Stsndsrds 1983

Stsndards and Protocols for Free Publlc Access Bulletin Bosrds Published by :-

The Association of Free Public Access Systems

```
**************************************************************
* Theae Protocols and Notes were drswn up snd agreed by the  *
* Assoclstion of Free Public Access Systems ln 1983.         *
* Further Pereission is hereby given for any other psrty to  *
* publish all or part of thls document without change so     *
* long as this notice is lncluded with esch such use.        *
**************************************************************
```

1. These standards were agreed by the Associstion of Free Public Access Systems (A.F.P.A.S.) ln Msrch 1983.

2. The standards will be implemented on Public Bulletln Bosrds connected to the Public Switched Telephone Network.

3. Frequencies and Baud Rstes to be used.

3.s. The tones used will be to CCITT Standsrds using 300 bsud (V.21) definitions.

3.b. A secondary option of 1200 baud Trsnsmlssion snd 75 bsud receptlon (V.23) may optionally slso be used.

3.c. Bell Systee tones will not generslly be made svsilable except as s lste night option sfter 00:00 hours and before 09:00 hours.

4. Inforestion will be sent using A.S.C.I.I. encoding of all text for display

5. Graphics whether to Prestel/Teletext stsndards or to N.A.F.L.P.S. standards shall not be used unless confined to a sepsrste area of the bulletin board.

6. Serial Word Lengths Allowsble.

6.a. All boards shall be able to accept cslls in s 7 data-bit word format with: 1 Start-Bit + 7 Osta-Bits + 1 Even Parity-Bit + 1 Stop-Bit

6.b. To facilitate the "Christensen Modem Protocol boards may also be run in an 8 data-bit format with no parity bit present. The conditions in 6.a. shall still apply.

6.c. Parity bits may be generated, but should not be checked on the reception of text when working as described in 6.a .

7. Certain non-text control codes shall have special purposes as follows:-

7.a. X-On / X-Off

7.a.i. On the receipt of an X-Off signal (Control-S, DC3 or Hexadecimal 13) the receiving host bulletin board shall immediately cease transmission of characters after the completion of the current character (10 serial bits).

7.a.ii. On the receipt of an X-On signal (Control-Q, DC1 or Hexadecimal 11) the transmission shall be continued again from the point at which it ceased.

7.a.iii. Optionally the system may allow continuation of text after the receipt of any character. This is to facilitate naive user use.

7.b. Automatic Log-On

7.b.i. The Host system may optionally allow automatic user log-on. The Host system will initiate this by sending a single Control-E (Decimal 5).

7.b.ii. The caller shall reply with an upper case A.S.C.I.I. string of the following form:- FIRST-NAME;LAST-NAME;LOCATION<Carriage-Return>

7.b.iii. If the caller does not reply in a string as above then the system will prompt the caller for a manual log- on procedure.

7.c. Buffer Control

7.c.i. To facilitate the accurate reception of data- files the board may send a signal to the incoming caller instructing the the caller's terminal to open an empty buffer area in memory and to accept all characters in a continuous stream into thatbuffer. In order to open the buffer the code Control-R shall be sent.

7.c.ii. On receipt of a Control-T code the buffer shall be closed and no more characters added to it.

7.c.iii. The user should have some way of storing the buffer contents to a permanent form of storage.

7.c.iv. The buffer open and close commands should not themselves be stored in the buffer.

7.d. In case of a wrongly typed character Control-H Hexadecimal 8 shall be sent to act as a back-space character.

8. Data File Transmissions

8.a. A.S.C.I.I. Text data files may be sent by either method 8.c.i. or 8.c.3. detailed below.

8.b. Binary data files (i.e. those containing any non-printable A.S.C.I.I. characters) may be sent by either method 8.c.ii or 8.c.iii.

8.c. There are three acceptable methods for file transmission.

8.c.i. Pure A.S.C.I.I. text optionally used with the buffer control codes described in Paragraph 7.c.

8.c.ii. As expanded hexadecimal A.S.C.I.I. for example Binary 10011100 would be sent as two A.S.C.I.I. text characters "9" and "C".

8.c.iii. By using the "Modem" series of protocols for the transmission of data in 128 byte check-summed blocks as devised by Christensen. This protocol includes full handshaking and re-transmission of blocks incorrectly received.The software and algorithms are Public Domain Programs and may be obtained from the CP/M User Group.

[Termination message]
** Thank you for calling **
*** Please Hang-up Now! ***

DAVIDS PAGE

"AUNTIE DAVID'S PAGE"

Hello members, I'm your new Auntie David. (Known also as David Parkins of Greenbank Electronics, but this is my day off.) I am grateful to Bob Eldridge for suggesting my new title. I quite like being called Auntie, because to me it represents a pun on the prefix "anti-". This suits me because there are many things I am "anti-", and am glad of the opportunity to come out of the closet and moan at the world from time to time.

But the main attraction to Bob and me of the title Auntie is that it pokes a bit of fun at the "Uncles" of the computer world. Most computers and organisations seem to have their "Uncles", so we think the Interaktion Group should go further, and have "Aunties" instead.

I think Bob was a little nervous that I might hit him with my handbag if he started to call me "Auntie" before I squared it with my wife, which is why he has so far given this piece the unoffensive title "David's Page".

I have been intending to write something for the newsletter for quite a while now, but somehow I have never managed it before the printing deadline, and so I am in a permanent state of continually intending to write something for the "next" issue. Although I always enjoy writing drivel like this (having to read it would be a different matter) I always have the excuse that if I have time to write anything I should be spending it on my true work, which is the never ending story of manuals and documentation for the cash paying Interak customers.

Bob has devised a clever way of forcing me to fill this page: he has prepared the entire newsletter completely, and sent it for printing with a great white space here for me to fill. He knows that in this way he will force me to write something since I can't bear to waste paper printing blank spaces. (This page is therefore the one page which is totally outside the editor's control; he will be as surprised as anybody to see what I put here, and he will have to stress that he disclaims all responsibility.)

I know what I'd like to see here and hope to carry out some experiments on filling the space with some of my favourite pictures. Unfortunately I fear that the photo reduction controls on our Xerox copier are insufficient to cope with my plans for illustrated diagrams of Samantha Fox.

Nice One, Bob, Tom, Pete

I am glad however to be able to write something Bob won't see until it's published, because I do want to use this space to say on behalf of all the readers of this publication how much we appreciate the work that Bob is putting in as Editor. It is a thankless task (and, contrary to general belief, entirely unpaid, in fact it costs Bob money as well as time to do all this work for you.) The same goes for Pete Vella and Tom Evans. Most members of the group evidently do appreciate the work these people put in, but I hope that the odd person who may have some criticism or complaint will remember that the group is run on an entirely voluntary basis and would collapse entirely if it were not for the work these chaps do. Thanks men!

Back to the newsletter though. Bob is to be congratulated on the new format and layout of the newsletter. If you have anything nice to say about the new format I am sure Bob would like to hear it. (If you don't have anything nice to say, then don't bother, unless of course you are willing to join in and show us how it should be done!)

The main reason for the change in print size (apart from the wish to boost the sales of magnifying spectacles for the opthalmic industries), is to reduce the time taken to print the newsletter, without reducing the amount of material included. The existing cost of printing the newsletter, collating it, envelopes, postage etc., runs into several thousands of pounds per year, but income unfortunately doesn't, so quicker printing has to be done without increasing costs any more. (The difference between income and expenditure, the loss in other words, is currently made up by Greenbank Electronics - luckily Auntie David has some influence in high places! - but it spoils the independence of the group if it has to rely on a sponsor to cover costs.)

If the newsletter can be produced for less than the cost of the subscription then we can certainly go on a recruiting drive, because there should be far more members than we have at present, (although this is not to knock the present number of over 480, which is highly creditable for a specialist computer such as Interak). However tens of thousands of Interak boards have been sold, so where are the users?

I am always quite mystified in my daytime job (at Greenbank Electronics) to hear from users who have not joined the group. Often a user has a query on some aspect of the computer, which has been already been covered in the newsletter pages, so I suggest that he look in his newsletter on page such and such for the answer. Too often I get the reply "Oh, I haven't bothered to join the user group; there's nothing there that I'd be interested in", but the enquirer is always grateful to have a photocopy of the article in question, even though it has cost him several pounds on the telephone to get it. Why don't such users support the group which has been set up expressly to support them?

My own reckoning is that for every hundred members most are appreciative of the work we're doing. Perhaps 10% are professional detractors who enjoy pointing out that say "Personal Computer World" is thicker and more colourful and costs less per issue (forgetting that they have a circulation of 40,000 or more, and a colossal income from commercial advertising), but only one or 2 people in each hundred are willing to be an active contributor, like Bob, Tom and Pete, or any of the people who have taken the trouble to send in letters, articles and programs etc. These poor one or 2 percent have to produce enough material to keep 480-plus members happy. If we can increase the membership to a thousand or two, then there will be a corresponding increase in the number of contributions, and the extra income can be used to improve printing and distribution and for other purposes.

I like to join every computer group I can, so that I can see what the others are up to. I am very favourably impressed with Interaktion compared with many other specialist groups. At about Issue 7 or 8 these groups seem to fizzle out, and we read plaintive cries from the editors, saying "If we don't get any articles sent in soon, there'll be nothing in the newsletter!", and, "Since manufacturer YYYY has stopped making our computer, there is no point in carrying on, and this is the last issue. Goodbye", and so on.

Bob tells me that the files are bulging with material for future newsletters, there is no slackening of interest in the group, indeed the main complaint is that people are clamouring for more, and of course manufacturer XXXX (Greenbank Electronics) has not discontinued making Interaks. Here we are at Issue 14, and still going strong!

TIME'S UP!

Oh dear, with all my rambling as above, I haven't got time now to get on to all the things I <u>should</u> have been talking about (HD64180, bigger RAMs, hard disks, CP/M Plus, etc, etc). Silly Auntie!

LETTERS

Zambia National Insurance Brokers Ltd,
P.O. Box 60689,
LIVINGSTONE,
ZAMBIA.

Dear Sir,

I should like to thank you very much for the information you sent me on the Interak 1 system. I think this is just my kind of personal computer.

I first came to know what computers really were when I attended a course in insurance which included an introductory subject on computers. Since then I have become so interested in coeputere, particularly personal computers, that the subject is an obsession to me. I am always thinking and day dreaming about computers, and I devour all information on coeputers which I come across. Unfortunately one does not easily get a regular flow of information on the subject here in this country since there are no computer magazines available and the few books that are often do not cover micro-computers adequately.

Inspite of this, nonetheless, I have been able to acquire more than an elementary understanding of both computer hardware and software. I have a basic knowledge on electronics and this has been helpful in this regard. But of course there is lots more to learn.

My greatest wish now is to have a micro-computer of my own. I can not buy one here simply because there are no personal computers on sale as far as I know. There are of course a number of people that have micro's here but then they must have bought them outside.

Actually even if they were available here at the current rate of inflation the prices would be astronomical. The ZX80 for example, which may be bought there for about 50 pounds would not sell at lese than the equivalent of 200 pounds here in Zambia. Aeide from this because of the problem that a dealer would have in getting foreign exchange allocation to import what may be termed as "luxury" there is likely to be a limited choice of computers and the hardware and software support is likely to be inadequate.

What one requires here therefore is a system that is easily adaptable and expandable and one which uses "Standard" components. In other words what one needs here is the Interak 1 system! I like the system even more because being a do-it-yourself fan the opportunity to build my own computer is one I wouldn't like to let pass for anything. The system would also be affordable for me if I could buy it in parts. Unfortunately for reasons of foreign exchange allocation I would have to acquire a whole workable system at once.

This, however, is not ae big a problem as that of obtaining the foreign currency. Like many other developing third world countries my country is experiencing a very poor balance of trade such that the allocation of foreign exchange for imports has to be tightly controlled.

According to my bank for me to bring in the Interak I, I need to acquire an import licence from the government after which I can then approach the bank to be considered for allocation of the necessary foreign currency.

By all indications therefore I can not see myself putting in an order for the computer any time this year. But my mind is set on the Interak and I won't be discouraged by how long it takes me to acquire it.

Probably I could request you to consider making a charitable donation of an Interak to a computer fanatic in Africa. That would be a very appreciable gift indeed!

In the meantime, in preparation for the day when I may acquire an Interak 1 System, I am trying to expand on my computer knowledge and keep abreast with developments. In this regard I would like to subscribe to a magazine on computing and I am at the moment looking for a suitable one. I would love to have any suggestions from you on this and also any information you are able to offer on computers.

I would be very happy to hear from you.

Yours sincerely
Aaron Chiseyengi.

(ED- How lucky we are in this country to be able to freely trade. My only suggestion is to the membership who may have old cards that they no longer require to send out to you. Perhaps you could donate a small sum in Zambian currency to a local childrene charity for each card recieved from one of us. I don't know how you could get a rack, but perhaps one could be fashioned locally. I would also advise joining the CPMUGUK as the quarterly journal is always full of readable computer stuff. Write to them at 72 Mill road, Hawley, Dartford, Kent, DA2 7RZ. And keep us informed of developments and we all wish you the best of luck with your quest.)

38 Castle road,
Salisbury,
Wiltshire.

Dear everybody out there who like me is looking for software to use on their computer just like me.

If you are still reading this then hello. It's a comfort to know that not all of you are using big 'I' for monitoring the heart beat of pregnant marsupials or calculating the regularity of a pulsars emmisions compared with the state of the United Nations canteen tea.

I think it only fair to say that there is a lot of software about. Unfortunatly it does not seem to appear in the list at the rear of Interaktion. This means that most of us never get to see any one elses work.
Mel Saunders has tried to help with his tapes but this is still a bit hit and miss. Whilst I enjoy hearing and talking with Mel, I will write back Mel, I can see that some may be intimidated or embarrassed if they felt that others saw their work.

First of all, many of us are hobbists and not proffesional programmers. Therefore in our circle there is no such thing as a bad program. Each of us sets a problem and then struggles for the solution. This may be to keep the aliens coming at us thick and fast, design a title page, get the computer to recognise certain shapes on the screen, clear part of a screen fast, etc.

Once we have completed the task do we say to ourselves "I wonder if there was a better way to do it?". Very often while looking through a book or magazine I will see a solution. Sometimes I may see a program that could be good if something was changed or an addition made. It may give me ideas for something different. How much nicer it would be if all this came from the users themselves. YOU!
Because of the work load that our dear editor has, maybe in the letters section we could 'advertise' our software. It may be that a small charge could be made. For instance, a tape costs 50p, postage is about 20p, there is the packing (although an envelope will do for a tape). This comes to about £1. If we allowed £2 for a tape, this would be reasonable.

If on each tape you had either 1 big program or several smaller programs then it would be worthwhile sending a tape. If you wrote in your letter what it was that you had, what it did, and an honest appraisal of its standard then we could write to each other requesting a tape.

If any program that you received you felt was really good then this could be forwarded to someone to assemble a tape and sell it to users complete for a fee of say $5 and use any profit made for the benifit of the user group.

Of course none of this means that you cannot sell a program for more yourself. If it is worth it then someone is bound to comment or maybe someone could appraise any software independently.

If you have programs that need assistance to complete or to get working or even ideas that others could work on then all of this would be useful.

Well lets hope that this letter spurs us all on to action. If there are any comments then lets here from you.

May your bytes not.
Bruce A. Joyce.

[ED- Thanks Bruce for an interesting letter. What you are saying is that we need a public domain tape library. If you were willing to be the librarian then it could be done. What you would do is provide users with a list of software in some sort of catalogue and respond to their requests for tapes. If you charged a resonable fee to cover costs and the time, no-one would object. I could provide you with a page or two in the newsletter to update users who would contact you for the full "Tape library listings". It is a much needed service and of course you would join the committe of the IUGN. Perhaps you could let me know the rules and details of the library for publication in IUGN 15. Oh! and of course it would need a name.]

43 Staveley Road,
Ashford Common,
Middlesex,
TW15 1TF.

Dear Mr Wells,

I am not interested in the games side of the activities, but have an urgent need for an understanding of CP/M and disk systems. Have you got any copies of the back numbers covering this.? If you have, then my subscription could start from a date to cover these back numbers, if that is easier, or tell me what you have available. Copies of the articles alone would be adequate, but the full issue would also be ok as I wish to get a picture of what has been happening.

Do you publish a list of members? This would be useful to many of us, and could encourage local contacts though it might be best to get member's agreement first. You could start it going by putting a little section in the journal under the heading ...

The following members wish to contact anyone in their area

... giving name and address and any special interest.

My insertion is : -

General interest, Disk systems, CPM, Bus standards. Not games.

Other contacts might follow by a snowball effect, it is likely that only a few would need to advertise, the others would follow. You would find yourself in the centre as an organiser, but at least you would get more done with possibly much less effort. it could be hectic at first.

My origin is in Electronics Engineering, so you will understand that I do not do very well with programming. I am interested in the developeent of the standard bus, and would much like to see it accomodate the 6502 as well as the 8086. As far as I can remember, the 80 bus was adapted from a bus used for the 6800 in the early days, and as the 6800 was derived from the 6500 series, there could still be a chance to make a really common bus after all this time.
The ISBUS must have quite a lot in common with the 80 bus. Other than pin out.

See you again, Yours faithfully

B.A.V.Young.

[ED- Back issues can be obtained from David of Greenbank. You should join the CPMUGUK, 72 Mill Road, Hawley, Dartford, Kent, DA2 7RZ. and ask for back issues as this club is devoted to CP/M and has a wealth of information for its members. We do print a list of members and each controls the publication of his details. Good idea about swopping contacts. Perhaps you would like to act as a central coordinator so as to preserve peoples privicy. I.e they would write to you for contacts in their area and you would put them in touch with each other, let me know if this is a possibility and of course I will help all I can with space in the mag. The 6502 is not as powerful as the Z80 and so there is little point in using it instad, as for the 8086 it offers no real gains over the industry standard 8 bit Z80. The Z80 wins every time from an electronic point of view and it has the most readable numonics ever produced, roll on the Z800. As for the ISBUS, it offers the most flexibility of any bus I have yet come accross, it still has 43 pins that are to be used as the machine evolves. Did you know that the Interak is the first evolving computer. As the other makers come round to this method of coping with growth, rather than by junking machines at each step, it is quite possible that ISBUS (established 10 years ago) will be adopted. Ask David for a copy of the ISBUS structure and let us know what you think of it. Perhaps an article comparing ISBUS with it for-runners would be interesting, any offers?.]

59b Elizabeth ave,
Islington,
London,
N1 3BQ.
01-226-8624

Dear Mr Veils,

Thank you very much for spsiring me your time on the phone the other night. I enclose s cheque for £7 to cover eubscriptions for Intersktion for one ymsr.
I am giving very serious consideration to constructing the Intersk system snd would sppreciate as much inforeation ss possible on softwsre support etc, sny extra data on the ZBBB, (Hitschi), CP/M 2.23, CP/M 3. I would be very grsteful.

Yours Fsithfuily
Psul Hobbs.

[ED- Join the CPMUGUK, address is elsewsre in this issue. Several good books are in the iibrsrisn. Thsnks for the subs.]

SOFTWARE

You msy use this section to seli softwsre to other users. Bend s brief description of your product giving detslls of its distribution and price, to the EDITDR. Note that you will be responsible for the support of your own product. The newsletter cannot be held responsible for or get invoived with duff code or distributers. Of course we will publish letters deriding sny product thst fsils to iive up to its claims.

See CONTACTS page st the end of this issue for "DRDER FRDM" sddresses.
Software supplied is the responsibility of the "ORDER FROM".
Please deal directly with the "ORDER FROM" in the event of bugs ect.

DISK SOFTWARE

CP/M 2.2
The industry stsndard disk opersting system for the Intersk computer. Needs s VDU 2K. Customised BIDS by Wolf Schroeder with customised MOVCPM. Supplied with multi diameter diskette Formstter and considersble extra utilities not normally provided by CP/M implimentstions. Ready to Boot up snd go on s 3.5" disk.
Contsct Greenbank Electronics for further details.

ZYBASIC 4
Runs to CP/M 2.2 with a VDU 2K. Any stsndard BIDS. Supports CP/M disk file program storsge. Enhanced Keyword set, memory mansger to allow correct use of availiable memory. 11 characters long variable names, Multi-dimensioned arrays of up to 32767 dims each up to 32767. Fully downwsrd compstsble with previous versions snd will losd progrsms from tape or disk and ssve them to tape or disk. Supplied on a 3.5" disk with run time progrsm source files. New version of the manual is svailiable separatly. Previous users can be upgraded at cost. At the moment it suffers from running rather slowly, but future releases sre plsnned to overcome this.
Contact Greenbank Electronics for further detsiis.

TAPE SOFTWARE

MACHINE CODE

NAME	DESCRIPTION	VDU	ORDER FROM	COST
FIGFORTH	FORTH COMPILER	2K	P.VELLA	£15.BB
INTERPLAY	BULLETIN BOARD DRIVER	2K	M&M ELECTRONICS	£ 4.B0
MEGABUG	DEBUG/TRAININO PACKAGE	2K	P.VELLA	£13.0B
VELTEXT	TEXT EDITOR	2K	P.VELLA	£ 5.BB
XTAL BASIC	14K BASIC	2K	P.VELLA	£48.BB
ZYBASIC 3A	INTERAK BASIC (TAPE)	2K	GREENBANK	£15.95
ZYBASIC 3C	INTERAK BASIC (RDM)	2K	BREENBANK	£27.75
ZYMDN 2.V2B3	INTERAK MONITDR	2K	GREENBANK	£15.95

XTAL BASIC

NAME	DESCRIPTIDN	VDU	ORDER FRDM	COST
AWARI	GAME	2K	M.SAUNDERS	PP
BIORYTHMS		2K	M.SAUNDERS	PP
CHAR DES	CHARACTER DESIGNER	2K	M.SAUNDERS	£ 5.5B
I-SPY	GAME	2K	M.SAUNDERS	PP
SOUND DEV	SDUND DEVELOPMENT	2K	M.SAUNDERS	£ 5.5B

Key: PP = Postage & packing.
PDA = Please enquire (Phone for price.)

CONTACTS

CONTACT TAPES. Communicate with other members by cassette tape.
Point Contact tapes,7 Drumcliff Rd, Thurnby Lodge,
Leicester, LE5 2LH.
BACK ISSUES... Can be obtained from:-
D.Parkins, Greenbank Electronics, 468 New Chester road,
Rock Ferry, Birkenhead, Merseyside, L42 2AE.
BOOKS..... Lend, borrow, and swop books via :-
R.E.Bowyer, 45 Ford drive, Yarnfield, Stone, Staffs.
DATA SHEETS... Swop, borrow, lend, chip data sheets
7 Drumcliff road,Thurnby Lodge,Leicester,LE5 2LH.
EDITOR..... Send submissions to :-
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M&M ELECTRONICS, 8 Ayre view, Bride, Isle of man.
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MEMBERSHIP.... To join, renew or change your details contact :-
Tom Evans, 129 Cranbourne Ways, Hayes, Middlesex, UB4 0HR.
P.VELLA ..... 19 Ford Drive, Yarnfield, Staffs.
R.ELDRIDGE ... 28 Wycherley Close, Blackheath, London, SE3 7QH.
SUBSCRIPTIONS. For information and payments please contact :-
Tom Evans, 129 Cranbourne Ways, Hayes, Middlesex, UB4 0HR.

STOP PRESS

TAECOM can now support 1288/75 or 300/300 baud users. Automatic selection. Set your modem to 1288/75 and dial up to see the speed increase.

****

8" DISK USERS, WOLF SCHROEDER'S CP/M 2.2 SET88SD UTILITY

Many of the users of 8" disks in the Interak system are moving over to 3.5", the attractions of the smaller size outweighing the loss of the superior performance of the 8" size. However they still want to keep one 8" drive in their system (often as drive C or D) so that they can directly draw from the pool of a thousand or more public domain 8" library disks. Of course Interak uses double density normally, but the late Wolf Schroeder provided a utility in his Interak CP/M 2.2 implementation called "SET88SD", which ostensibly sets the "B" drive to standard single sided single density operation in the IBM 3740 format, to read and write standard distribution 8" disks.

I have often been asked for the changes to make the equivalent program "SETCBSD" or "SETD8SD" to suit the occasions when it is not convenient to have an 8" drive as drive B, and have been intending for some time to investigate how to do this.

As usual the users are cleverer than I, and I am indebted to Mr Frank Johnson of BT who has just pointed out that no changes whatever are required to "SET88SD" for this purpose! As I knew (but had forgotten) there are only two disk drive parameter tables in use at any one time; for example in a mixed system with a 3.5" "A" disk one table will be for 3.5" disks and the other will be for 8". The SET88SD program simply alters the second table to suit 8" single density, and therefore it will affect any of the drives which use that table, ie all of the 8" drives in a mixed system! (The SET88SD program received its confusing title when it was used in an original completely 8" system which was set up so that the A drive was 8" double density and it was only the B drive which used the second table when single density operation was required.)

David M Parkins, Greenbank Electronics.

==========

MORE STOP PRESS

If they arrive in time, we hope to include some extra sheets as part of this newsletter - something from Charlie Bridgstock (disk librarian), and Tom Evans (membership secretary).

Signed: Blackett and Creasem Ltd, Interaktion Print Works.

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INTERAKTION DISK LIBARY.

A public domain software libary is being set up for the user group on 3.5 DSDD disks. The majority of the software originates from the UK CP/M User Group, and I am indebted to David Parkins who provided most of the material. Contributions to the libary will be gratefully received. These must be original or in the public domain. Programs from magazine listings should not be submitted unless permission to do so has been obtained from the Editor. If original, please give as much information as possible in a separate .DOC file. The usual rules apply; Programs may be given away but not resold and copyright notices should not be removed from the programs. As not all the programs have been tested there may be bugs. If you find any please let me know especially if you have also found a solution.

Charges: Copying charge. 2.00
Media charge. 3.00

If you wish to supply your own disks it is advisable to pack them between two pieces of hardboard or similar material as I understand it is possible for them to be cracked in the Post if sent in an envelope or Jiffy Bag without protection.

Cheques or Postal Orders (no cash, please!) should be crossed and made payable to INTERAKTION and sent to:

C.Bridgstock,
32, Wimborne Avenue,
Thingwall, Wirral,
MERSEYSIDE. L61. 7UL.

The following disks are available:-

IUG 1.

Languages. Forth-83 & Lisp.

Filename.	Type.	Size.	Remarks.
F83	.Com	24k	Forth-83 for cp/m by Perry & Laxen.
Readme	.80	28k	F83 Instructions.
F83-fixs	.txt	8k	F83 version 1.0 update.
Basic	.Blk	28k	Basic compiler in F83.
Clock	.Blk	12k	Source for a calendar example.
Cpu8888	.Blk	44k	8888 dependent code.
Expand88	.Blk	0k	Original source to Expand.Huf.
Extend88	.Blk	32k	Extensions source.
Huffman	.Blk	44k	Compression program.
Kernel80	.Blk	188k	Kernel source.
Meta88	.Blk	52k	Metacompiler source.
Utility	.Blk	112k	Utility source.
Usq	.Com	4k	Unsqeezes squeezed files.
Lisp	.Com	28k	Updated Lisp.
Initlisp	----	4k	
Initlisp	.Stb	4k	
Lisp	.Doc	16k	Instructions.
	Total	588k	

The following books are helpful in using F83:

Inside F83 by C.H.Ting.
Mastering Forth by Anderson & Tracy.
Forth. A text and reference by Kelly & Spies.

IUG 2.

Languages. Cobol, Small-C Compiler & Small-C programs. Adventure game.

Filename.	Type.	Size.	Remarks.
Cinterp	.Com	16k	Cobol Interpreter.
Cobol	.Com	16k	N.P.S. Micro Cobol Ver 2.1
Exec	.Com	8k	" " " "
Part 2	.Com	16k	" " " "
Cobol	.Doc	40k	Instructions.
Add	.Cbl	4k	Cobol progs. See Cobol.Doc
Cbl1	.Cbl	4k	" " " " "
Cbl2	.Cbl	4k	" " " " "
Demo	.Cbl	4k	" " " " "
Seq	.Cbl	4k	" " " " "
Demo	.Cin	4k	" " " " "
Demo	.Lst	4k	" " " " "
Cbl1	.Cin	4k	" " " " "
Cbl1	.Lst	4k	" " " " "
Cbl2	.Cin	4k	" " " " "
Cbl2	.Lst	4k	" " " " "
Cbl1	.Fil	4k	" " " " "
Add	.Cin	4k	" " " " "
Add	.Lst	4k	" " " " "
Zsc-1	.C	28k	Small-C Compiler.
Zsc-2	.C	28k	Small-C Compiler.
Zsc-comp	.Lib	12k	" "
Zsmall	.Com	24k	" "
Zsmall	.Doc	16k	Instructions.
C-util	.Doc	4k	Doc. on Tab, List, Filechop, and Unload.
Conio	.Lib	8k	Small-C libaries.
Crun	.Lib	0k	" "
Czmon	.C	12k	Sample Small-C program.
Czmon	.Com	0k	" " "
File	.Lib	12k	Small-C Libary.
Filechop	.C	4k	Chop large files into sections.
Filechop	.Com	4k	
List	.C	4k	Sample Small-C program.
List	.Com	4k	
Numio	.Lib	4k	Small-C Libary.
Tab	.C	4k	Sample Small-C program.
Tab	.Com	4k	
Z80asmUK	.Com	12k	Z80 Assembler for use with Small-C.
Z80docUK	.Doc	0k	Instructions.
Adv	.Com	36k	Expanded Adventure Game.
Advt	.Doc	4k	Instructions.
Advi	.Dat	32k	
Advi	.Ptr	4k	
Advt	.Dat	100k	
Advt	.Ptr	16k	
	Total.	548k	

(PTO for IUG 3)

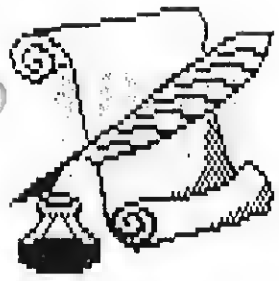
IUG 3.

CP/M Utilities.

Filename.	Type.	Size.	Remarks.
Bckup	.Com	4k	Disk backup program.
Compare	.Com	4k	Binary file comparison.
Copy	.Com	4k	Disk copy program.
Cpack	.Doc	12k	Documentation for Bckup, Compare, Restore, Copy and Sortdir.
Dos	.Com	4k	Finds address of CCP/BDOS & size of TPA>
Restore	.Com	4K	Restores erased files.
Sortdir	.Com	4k	Sorted directory program.
Dutil	.Com	12k	Revision of disk utility with extended features.
Xlate2	.Com	8k	Translates Intel 8080 source code to Zilog Z80 code.
Dirscan	.Com	8k	Scans directory.
Indexer	.Com	20k	Creates an index for a book or any document
Indexer	.Sub	4k	automatically. Includes a sample program.
Pzkey	.Inx	4k	
Pzkey	.Tre	4k	
Indexer	.Doc	16k	Documentation.
Oki	.Com	8k	Menu file to send code to Okidata 82/83.
Epson	.Com	8k	Menu file to send code to Epson MX printers to set type size.
Xdir	.Com	4k	Extended directory.
Sub	.Com	16k	Menu file to run the major CP/M command files.
Erase	.Com	8k	"User friendly" erase.
Signs	.Com	12k	Formatting program for both 80 and 132 column printers.
Signs11	.Com	12k	
Signs	.Txt	4k	
Signs	.Doc	4k	
Signs6	.Com	12k	
Font	.Dat	4k	
Delbr	.Com	16k	To extract .Lbr files type Delbr Filename.
Delbr11	.Com	16k	Extracts .Lbr files CP/M80, 86 and Msdos.
Ftnote13	.Com	16k	Produces footnotes with Wordstar.
Ftnote13	.Doc	24k	Instructions.
QK12	.Com	4k	Redefines keyboard.
QK12	.Bug	4k	" "
QK12	.Doc	12k	Documentation.
Basfk	.Asm	12k	Routine to load Cifer Vdu function keys with Basic statements.
Cat	.Com	4k	Catalogue System.
Cat2	.Com	4k	" "
Crck	.Com	4k	Checksum program.
Crcklist	.Crc	4k	Checksum of some files on this disk.
Ddisk	.Com	8k	Improved disk debug program.
Ddisk	.Mac	36k	Source of the above program.
Mast	.Cat	4k	Sample catalogue file.
Prtht/21	.Com	4k	Print listings with date and time.
Prtht/21	.Asm	32k	Source of above.
Prtht	.Doc	4k	Documentation.
Pws/5	.Asm	32k	Wordstar patcher for intelligent terminals/printers
Pws	.Doc	4k	Instructions for above.

IUG 3. (Continued)

Filename.	Type.	Size.	Remarks.
TestZ80	.Zsm	4k	Test source file for Z80 Assembler.
Z80asmUK	.Asm	60k	Improved Z80 Assembler.
Z80asmUK	.Com	12k	" " "
Z80docUK	.Doc	8k	Documentation for Assembler.
Udcat	.Com	12k	Improved disk catalogue program.
Udcat	.Mac	20k	
Udcat	.Doc	8k	Documentation for above.
	Total.	568k	



"Interaktion"... production, and finance etc.

by
Tom "why ask me, I'm only the treasurer" Evans.

Hopefully 1987 will see a re-vitalised Interaktion, with issues of the Newsletter being published on time (who laughed?). I understand that a different production method is being used on the latest issues, resulting in a faster, and more economical turn-around per issue. Economics is proving to be the major concern in production, this also has an effect on the time it takes to get the copies out to you the readers. At the moment Greenbank Electronics is absorbing the whole cost of production and distribution, this must be balanced soon by substantial contributions by the User Group. I will soon be able to check the financial state of Interaktions affairs, a new account will be opened at Lloyds Bank, Hayes, and any existing monies will be transfered by Pete Vella from Stafford along with statements, payout slips, and invoices. This will enable me to make up a statement of accounts to be published within this journal. At the moment, I have no way of knowing who is up to date, or behind with their subs, but this will all soon be taken into account in the very near future, and accounts will be submitted yearly for publication, and scrutiny.

There may be a possibility to interest Electronic, and Computer Peripheral suppliers to place adverts in the Newsletter, this will help to enable us to gain monetary independence, also these advertisers may be persuaded (rubber hose job) to give discounts to Interaktion members.

Of course everything will not come good with just money, the whole exercise is to make a healthy user group with exchanges of ideas, and "Interaktion" between members (no rude thoughts please), so please submit articles, questions etc, your monetary subsciption is not the "be all, end all" of your participation, at least it shouldn't be, after all we have the makings of what could be a great social group. It has been noticed that in the past, only a few dedicated members have made any effort to contribute to the contents of the publication, and if you look back through the issues, you will see the same few names cropping up time after time, these dedicated few have been invaluable, but I am sure they must get fed-up with no feed back from their articles. Surely the group doesn't consist of four hundred or so "dead heads", there must be tons of talent out there, after all we are the do'ers, we make our gear, so lets show off. Well thats the sermon over with, so lets get on.

I hope that you will fill in the small info-sheet (a small start to your group input?), this will help give us some idea as to what you require or expect from the 1UGN, plus "local" area lists can be generated so that you can see how many "Interakers" are near you.

Sees yas.....Tom.

The IUGN needs YOU!

Dear Friends, we need more contributions from the roots of the Interak community, information as to what you actually do with Interak, even if you have made a fully automatic toilet tissue dispenser controlled by Interak, we WANT, no MUST hear about it.

It would be nice to know if any new cards have been designed by yourselves, any new ideas will be welcome. Does anyone need help on a pet project, if you write into the IUGN, perhaps a fellow Interaker can offer some help or an idea to get you over the hump (or they may even cock it up entirely, but thats all part of the fun).

Talking about new cards, isn't it about time we had a new CPU card, maybe a 16 or 32 bit blaster, this of course will bring lots of problems, but thats half the pleasure of machines like Interak. Has anyone actually grafted a different cpu to the Interak bus?? Other cards that are needed (my selfish needs) are, Maths processor, and good hi-res colour graphics, what say you mates, any suggestions (they can be rude ones).

Is there any interest in a group meeting at some convenient location, if so perhaps we can arrange a meet at some mutual place of interest (ie Pub, Motel). Write or phone and let me know, and I am sure that we can find a central meeting point suitable for all participants. It would be very interesting to get a bunch of Interakers together for a jaw bashing. I understand Dave and John Parkins are also interested in this little adventure.

Bob Eldridge needs your input to continue making the Newsletter interesting, its a mammoth task hunting for new material, so please submit articles, sales/wants, cries for help, old knickers etc to Bob the Editor, on second thoughts, send the old knickers to me.

Tom Evans (Membership Secretary, and old knicker collector).

** REMEMBER **

NO INPUT = NO OUTPUT

INFO UPDATE (Feeding time for Interak)

Please fill in the details below, and return to Tom Evans (Membership Sec)

Date:
Surname: Forenames:
House/Flat Number: Street:
Town:
County:
Post Code:
Country:
Home Phone: Works Phone:

Male/Female/Hybrid:
Nature of employment:
Pastimes:

Current INTERAK equipment:

Other Computer equipment:

What do you use Interak For?

What would "YOU" like to see available for your Interak?

Pet Hate (what don't you like about Interak or the User Group)

Would you like a "local area" listing of Interak users?
Would you like a listing of users with similar interests?

*** This information is for INTERNAL IUGN use only! ***
Please return to Tom Evans, 129, Cranborne Waye, Hayes, Middlesex, UB4 0HR.

Ta muchly for your time..